No. 200000090

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Monsanto Technology LLC

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE , OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'AG5701'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this fourth day of February, in the year two thousand and five.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

[redacted]

REPRODUCE LOCALLY. *Include form number and date on all reproductions*

Form Approved - OMB No. 0581-0055

U.S. DEPARTMENT OF A[GRICULTURE]
AGRICULTURAL MARKE[TING SERVICE]
SCIENCE AND TECHNOLOGY - PLANT VA[RIETY] PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements [are] made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction [Act (PRA)] of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER
Monsanto Technology LLC

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME
AGM59801

3. VARIETY NAME
AG5701

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
634 E. Lincoln Way
Ames, IA 50010

5. TELEPHONE *(include area code)*
(515) 232-7170

6. FAX *(include area code)*
(515) 232-6905

FOR OFFICIAL USE ONLY

PVPO NUMBER
200000090

FILING DATE
12/9/1999

7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.)*
Limited Liability Company

8. IF INCORPORATED, GIVE STATE OF INCORPORATION

9. DATE OF INCORPORATION

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. *(First person listed will receive all papers)*
Donald Steffen
634 E. Lincoln Way
Ames, IA 50010

FEES RECEIVED

FILING AND EXAMINATION FEES:
$ 2,450.00
DATE 12/9/1999

CERTIFICATION FEE:
$ 432.00
DATE 10/12/04

11. TELEPHONE *(Include area code)*
(515) 956-3002

12. FAX *(Include area code)*
(515) 232-6905

13. E-MAIL
donald.e.steffen@monsanto.com

14. CROP KIND *(Common Name)*
Soybean

15. GENUS AND SPECIES NAME OF CROP
Glycine max (L.) Merr.

16. FAMILY NAME *(Botanical)*
Fabaceae (Leguminosae)

17. IS THE VARIETY A FIRST GENERATION HYBRID?
☐ YES ☒ NO

18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)

- a. ☒ Exhibit A. Origin and Breeding History of the Variety
- b. ☒ Exhibit B. Statement of Distinctness
- c. ☒ Exhibit C. Objective Description of Variety
- d. ☒ Exhibit D. Additional Description of the Variety *(Optional)*
- e. ☒ Exhibit E. Statement of the Basis of the Owner's Ownership
- f. ☒ Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)*
- g. ☒ Filing and Examination Fee ($2,705), made payable to "Treasurer of the United States" *(Mail to the Plant Variety Protection Office)*

19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? *See Section 83(a) of the Plant Variety Protection Act)*
☐ YES *(If "yes", answer items 20 and 21 below)* ☒ NO *(If "no," go to item 22)*

20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? ☐ YES ☐ NO
IF YES, WHICH CLASSES? ☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

21. DOES THE OWNER SPECIFY THAT THE CLASSES BE LIMITED AS TO NUMBER OF GENERATIONS? YES NO
IF YES, SPECIFY THE NUMBER 1, 2, 3, *etc.* ☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED
(If additional explanation is necessary, please use the space indicated on the reverse.)

22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?
☐ YES ☒ NO
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. *(Please use space indicated on reverse.)*

23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT *(PLANT BREEDER'S RIGHT OR PATENT)*?
☒ YES ☐ NO
IF YES, GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. *(Please use space indicated on reverse.)*

24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER
D Ed Steffen

NAME *(Please print or type)*
Donald Steffen

CAPACITY OR TITLE
Oilseeds IP/Reg. Affairs Manager

DATE
10/15/1999

SIGNATURE OF OWNER

NAME *(Please print or type)*

CAPACITY OR TITLE

DATE

S&T-470 (04-01) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (02-99) which is obsolete. *(See reverse for instructions and information collection burden statement)*

INSTRUCTIONS

ENERAL: To be effectively filed with the Plant Var[illegible]rotection Office (PVPO), **ALL** of the following items [illegible]e **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to **reproduce** the variety, or for tuber reproduced varieties verification that a viable *(in the sense that it will reproduce an entire plant)* tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for $2,705 ($320 filing fee and $2,385 examination fee), payable to "Treasurer of the United States" *(See Section 97.6 of the Regulations and Rules of Practice.)* Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of $320 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office
Telephone: (301) 504-5518
FAX: (301) 504-5291
Homepage: http://www.ams.usda.gov/science/pvp.htm

ITEM

18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified

18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:

(1) identify these varieties and state all differences objectively;
(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.

18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.

18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, *etc.*

18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.

19. If "Yes" is specified *(seed of this variety be sold by variety name only, as a class of certified seed)*, the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. *(See Regulations and Rules of Practice, Section 97.103).*

21. *See Section 83 of the Act for the Contents and Term of Plant Variety Protection.*

22. *See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.*

23. *See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.*

21. CONTINUED FROM FRONT *(Please provide a statement as to the limitation and sequence of generations that may be certified.)*

22. CONTINUED FROM FRONT *(Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)*

23. CONTINUED FROM FRONT *(Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)*

U.S. Patent No. 5,776,760. Issue Date: July 7, 1998. Assignee: Monsanto Company. Patent Application No. 484,274.

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. *(See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)*

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center--East, Beltsville, MD 20705. Telephone: (301) 504-8089. http://www.ams.usda.gov/lsg/seed/ls-sd.htm

S&T-470 (04-01) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (02-99) which is obsolete.

MONSANTO TECHNOLOGY LLC
PVP APPLICATION - AG5701

EXHIBIT A

ORIGIN AND BREEDING HISTORY OF AG5701

1995 Cross M952487 was made in Galena, Maryland.
Parentage: A5959*2//A5979/40-3-2

1995-6 F1 generation was grown at Marion, Arkansas and F2 generation was grown near Isabela, Puerto Rico. Both were advanced using modified pedigree selection.

1996 F3 Bulk Populations were grown in Isabela, Puerto Rico and single plants pulled.

1996 F3 derived F4 plants were grown in Marion, Arkansas in progeny rows, and row M952487 M96-14807 was selected based on agronomic characteristics, including, but not limited to, general plant health, lodging, early emergence, general disease resistance, including resistance to PRR, SCN, BSR, SDS, stem canker, etc.

1996-7 F3:5 plants were grown near Isabela, Puerto Rico as nursery increase.

1997 F3:5 M952487 M96-14807, now called AG5701, was entered in a yield test at 4 locations in the lower Midwest, where it placed 3rd of 50 entries.

Variety AG5701 was observed to be uniform and stable for the characteristics described within this application based on our observations since 1997 and, henceforth, to present. No variants were observed during this time.

Variety AG5701has continued to be grown in yield tests at 11 locations in 2001 and 27 locations in 2002 for comparison against other varieties to determine how it would be used in our marketing program.

MONSANTO TECHNOLOGY LLC
PVP APPLICATION - AG5701

EXHIBIT B

Novelty Statement Concerning AG5701 Soybean

To our knowledge, the soybean varieties that closely resemble AG5701 are A5959 and SE90346:

1. Flower color	AG5701	- White
	A5959	- White
	SE90346	- White
2. RR™ gene	AG5701	- Present
(Tolerance to glyphosate herbicide)	A5959	- Absent
	SE90346	- Present
3. Pod wall color	AG5701	- Tan
	A5959	- Tan
	SE90346	- Brown

20000090

REPRODUCE LOCALLY. Include form number and date on all reproductions

Form Approved: OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT C
(Soybean

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (*Glycine max* (L.) Merr.)

NAME OF APPLICANT(S)	FOR OFFICIAL USE ONLY
Asgrow Seed Company LLC	PVPO NUMBER 20000090
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code)	VARIETY NAME **AG5701**
634 East Lincoln Way **Ames IA 50010**	TEMPORARY DESIGNATION **AGM59801**

PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (e.g. ☐☐☐ or ☐☐) when number is either 99 or less 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used:_____
Please answer all questions for your variety; lack of response may delay progress of your application.

A. MORPHOLOGY

Seed Shape:

[2]

1 = Spherical (L/W, L/T, and T/W ratios - <1.2)
2 = Spherical Flattened (L/W ratio >1.2; L/T ratio = <1.2)
3 = Elongate (L/T ratio > 1.2; T/W = <1.2)
4 = Elongate-Flattened (L/T ratio >1.2; T/W >1.2)

Seed Coat Color:

[1] **1= Yellow 2= Green 3= Brown 4= Black 5= Other (*Please Specify*)_____**

Seed Coat Luster:

[1] **1= Dull 2= Shiny**

Seed Size:

[1][4] **grams/100 seeds**

Hilum Color:

[1] **1= Buff 2= Yellow 3= Brown 4= Gray 5= Imperfect Black 6= Black 7= Other (*Please Specify*)_____**

Cotyledon Color:

[1] **1 = Yellow 2 = Green**

A. MORPHOLOGY *(Continued)*

Seed Protein Peroxidase Activity:

[ ] 1 = Low 2 = High

Hypocotyl Color:

[1] 1 = Green 'Evans' or 'Davis' | 2 = Green with Bronze Bands below Cotyledon 'Woodworth'or'Tracy' | 3 = Light Purple below Cotyledons 'Beeson'or'Pickett71' | 4 = Dark Purpleextending to unifoliate leaves ('Hodgson', 'Coker',or'Hampton266A')

Leaf Shape:

[3] 1 = Lanceolate 2 = Oval 3 = Ovate 4 = Other (*Please Specify*)_____

Flower Color:

[1] 1 = White 2 = Purple 3 = White with a Purple Throat

Pod Color:

[1] 1 = Tan 2 = Brown 3 = Black

Pubescence Color:

[1] 1 = Gray 2 = Brown (Tawny) 3 = Light Tawny

Plant Habit:

[1] 1= Determinate 2= Semi-Determinate 3= Indeterminate 4 = Intermediate

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B. DISEASE REACTIONS

0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

Bacterial

[0] Bacterial Pustule (*Xanthomonas campestris* pv. *glycines* (Nakano) Dye)

[0] Bacterial Blight (*Pseudomonas syringae* pv. *glycinea* (Coerper) Young, Dye &Wilkie)

[0] Wildfire Blight (*Pseudomonas syringae* pv. *tabaci* (Wolf & Foster) Young, Dye &Wilkie)

Fungal

[0] Brown Spot (*Septoria glycines* Hemmi)

Frogeye Leafspot (*Cercospora sojina*)

[0] race 1 [0] race 2 [0] race 3 [0] race 4

[0] race 5 [0] race 6 [0] Other (*Please Specify*)_____

[0] Target Spot (*Corynespora cassiicola* (Berk. & Curt.)Wei)

[0] Downy Mildew (*Peronospora trifoliorum* var. *manshurica* (Naum.) Syd. Ex Gaum)

B. DISEASE REACTIONS *(Continued)* 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

0	Powdery Mildew (*Microsphaera diffusa* Cke. & Pk.)
0	Brown Stem Rot (*Phialophora gregata* (Allington & Chamberlain) W. Gams.)
0	Stem Canker (*Diaporthe phaseolorum* (Cke. & Ell.)Sacc. var. *caulivora* Athow & Caldwell)
0	Pod and Stem Blight (*Diaporthe phaseolorum* (Cke. & Ell.)Sacc. var. *sojae* (Lehman) Wehm.)
0	Purple Seed Stain (*Cercospora kikuchii* (T. Matsu. & Tomoyasu) Gardener)
0	Rhizoctonia Root rot (*Rhizoctonia solani* Kuhn)

Phytophthora Rot (*Phytophthora megasperma* Drechs. f. sp.*glycinea* (Kuan & Erwin))

1	race 1	1	race 8	1	race 15	1	race 22
1	race 2	1	race 9	1	race 16	1	race 23
1	race 3	1	race 10	1	race 17	1	race 24
1	race 4	1	race 11	1	race 18	1	race 25
1	race 5	1	race 12	1	race 19	0	race 26
1	race 6	1	race 13	1	race 20	0	race 27
1	race 7	1	race 14	1	race 21		Other (*Please Specify*)_____

0	Bud Blight (Tobacco Ringspot Virus)
0	Yellow Mosaic (Bean Yellow Mosaic Virus)
0	Cowpea Mosaic (Cowpea Chlorotic Virus)
0	Pod Mottle (Bean Pod Mottle Virus)
0	Seed Mottle (Soybean Mosaic Virus)

Nematode

Soybean Cyst Nematode (*Heterodera glycines* Ichinohe)

0	race 1	2	race 3	0	race 6	2	race 14 (former r. 4)
0	race 2	0	race 5	0	race 9		Other (*Please Specify*) _____

0	Lance Nematode (*Hoplolaimus colombus* Sher)
0	Southern Root Knot Nematode (*Meloidogyne incognita* (Kofoid & White)Chitwood)
0	Northern Root Knot Nematode (*Meloidogyne hapla* Chitwood)

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B. DISEASE REACTIONS (*Continued*) 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

0	Peanut Root Knot Nematode (*Meloidogyne arenaria* (Neal) Chitwood)
0	Reniform Nematode (*Rotylenchulus reniformis* Linwood & Olivera)
0	Javanese Nematode (*Meloidogyne javanica* (Treud) Chitwood)
	Other Nematode (*Please Specify*) _____

C. PHYSIOLOGICAL RESPONSES 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

0	Iron Chlorosis on Calcareous Soil
0	Phosphorus
0	Boron
0	Aluminum
0	Salt
0	Drought
	Other (*Please Specify*) _____

D. INSECT REACTIONS 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

0	Mexican Bean Beetle (*Epilachna varivestis* Mulsant)
0	Potato Leaf Hopper (*Empoasca fabae* (Harris))
	Other (*Please Specify*) _____

E. HERBICIDE REACTIONS 0 = Not Tested 1 = Susceptible 2 = Resistant

2	Metribuzin
0	Bentazone
1	Sulfonylurea
2	Glyphosate
1	Glufosinate
0	Pendimethalin
	Other (*Please Specify*) _____

F. TRANSGENIC COMPOSITION

Has the development of the Subject Variety included the insertion or removal of genetic material?

[X] Yes [ ] No (ST: 7/11/2003 per applicant's request).

If yes, please complete the following information requests*. Use additional pages if necessary.

F. TRANSGENIC COMPOSITION*(Continued)*

1. **Please state the vector's name:**
2. **Please state the vector components:**
3. **Please describe the genetic material successfully transferred into the Subject Variety:**
4. **Please describe the insertion protocol:**

* **A literature citation(s) explaining the four information requests above may be an acceptable alternative to completion of the "Transgenic Composition" portion of this form.**

G. BIOCHEMICAL MARKERS

Please describe any biochemical information here which you believe will be helpful in further describing the Subject Variety (e.g. Sim Sequence Repeats, Random Fragment LengthPolymorphisms, Isozymic Characterization). Use additional pages if necessary.

H. COMMENTS

ASGROW SEED COMPANY LLC
PVP APPLICATION - AG5701
October 1999

EXHIBIT D

Additional Description of AG5701 Soybean

AG5701is a late maturity group V variety with resistance to Roundup [tm] herbicide . It has superior yields to lines of similar maturity and has excellent agronomic characteristics. In tests, it has beaten Asgrow AG5801 by 114 % overall, winning at 4 of 4 locations. AG5701would be grown in the late maturity Group V growing areas of the southern corn belt, including Arkansas, Missouri, Mississippi, Louisiana, Tennessee, North Carolina, and South Carolina. It has slightly above average appearance.

NEMATOLOGY TEST No: 0547 – SCN Race 3
Ref. Name: ASG-R3
Submitted 10/2/97

Key for Test Methodology: Entries each had 3 reps potted. Each rep consisted of 2 seeds per pot with 4,000 nematode eggs per pot. Checks were planted using the same methodology except that 9 reps potted. Plants were removed from the soil and cysts were counted.

Variety	Cysts /Pot	Std Dev	F-Index	S-S Class
A4604	24.0	0.0	2.2	Resistant
A4045	610.7	10.3	56.5	Susceptible
A4922	16.0	2.2	1.5	Resistant
A5959	**16.0**	**1.4**	**1.5**	**Resistant**
AG5901	**32.0**	**0.0**	**3.0**	**Resistant**
AG5601	910.7	10.3	56.5	Susceptible
AG5701	**234.7**	**19.2**	**21.7**	**Moderately Resistant**
A5547	5.3	0.5	0.5	Resistant
Peking (Check)	1.3	0.4	0.1	Resistant
Essex (Check)	981.3	7.6	90.9	Susceptible

NEMATOLOGY TEST No: 1183 – SCN Race 3
Ref. Name: ASG-R3
Submitted 10/5/98

Key for Test Methodology: Entries each had 3 reps potted. Each rep consisted of 2 seeds per pot with 4,000 nematode eggs per pot. Checks were planted using the same methodology except that 9 reps potted. Plants were removed from the soil and cysts were counted.

Variety	Cysts /Pot	Std Dev	F-Index	S-S Class
A4604	13.3	0.9	5.7	Resistant
A4045	152.0	2.8	68.4	Susceptible
A4922	16.7	2.1	9.4	Resistant
A5959	**18.7**	**0.5**	**8.0**	**Resistant**
AG5901	**16.0**	**1.4**	**6.9**	**Resistant**
AG5601	197.3	5.0	84.6	Susceptible
AG5701	**42.7**	**1.9**	**18.3**	**Moderately Resistant**
A5547	2.7	0.5	1.1	Resistant
Peking (Check)	6.7	0.7	2.9	Resistant
Essex (Check)	233.3	7.8	100.0	Susceptible

NEMATOLOGY TEST No: 0517 – SCN Race 14
Ref. Name: ASG-R14
Submitted 10/2/97

Key for Test Methodology: Entries each had 3 reps potted. Each rep consisted of 2 seeds per pot with 4,000 nematode eggs per pot. Checks were planted using the same methodology except that 9 reps potted. Plants were removed from the soil and cysts were counted.

Variety	Cysts /Pot	Std Dev	F-Index	S-S Class
A4604	133.3	10.3	12.3	Moderately Resistant
A4045	450.7	6.8	41.7	Susceptible
A4922	144.0	10.7	13.3	Moderately Resistant
A5959	**146.7**	**2.9**	**13.6**	**Moderately Resistant**
AG5901	**10.7**	**1.9**	**1.0**	**Resistant**
AG5601	674.7	9.9	62.5	Susceptible
AG5701	**184.0**	**9.1**	**17.0**	**Moderately Resistant**
A5547	8.0	0.2	0.9	Resistant
PI88788 (Check)	1.8	0.5	0.2	Resistant
Lee74 (Check)	810.7	42.2	75.1	Susceptible

NEMATOLOGY TEST No: 1478 – SCN Race 14
Ref. Name: ASG-R14
Submitted 10/5/98

Key for Test Methodology: Entries each had 3 reps potted. Each rep consisted of 2 seeds per pot with 4,000 nematode eggs per pot. Checks were planted using the same methodology except that 9 reps potted. Plants were removed from the soil and cysts were counted.

Variety	Cysts /Pot	Std Dev	F-Index	S-S Class
A4604	48.0	2.2	20.6	Moderately Resistant
A4045	173.3	2.5	74.3	Susceptible
A4922	69.3	2.1	29.7	Moderately Resistant
A5959	**37.3**	**1.7**	**16.0**	**Moderately Resistant**
AG5901	**13.3**	**0.9**	**5.7**	**Resistant**
AG5601	378.7	12.7	162.3	Susceptible
AG5701	**53.3**	**4.5**	**22.9**	**Moderately Resistant**
A5547	10.7	0.5	4.6	Resistant
PI88788 (Check)	5.0	0.4	2.6	Resistant
Lee74 (Check)	256.0	11.0	109.7	Susceptible

Methodology above is a modified version of industry-accepted methodology published below:

Luedders, V.D., and Anand, S.C. 1989. Attempt to select a cyst nematode population on soybean plant introduction 437654. Journal of Nematology 21:264-267.

Schmitt, D.P., and Shannon, J.G. 1992. Differentiating soybean responses to *Heterodera glycines* races. Crop Science 32:275-277.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued *(7 U.S.C. 2421)*. The information is held confidential until the certificate is issued *(7 U.S.C. 2426)*.

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
Monsanto Technology LLC	AGM59801	AG5701
4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)*	**5. TELEPHONE** *(Include area code)*	**6. FAX** *(Include area code)*
634 E. Lincoln Way Ames, IA 50010	(515) 232-7170	(515) 232-6905
	7. PVPO NUMBER	200000090

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. **If no, please explain.** [X] YES [ ] NO

9. Is the applicant (individual or company) a U.S. National or a U.S. based company? **If no, give name of country.** [X] YES [ ] NO

10. Is the applicant the original owner? [X] YES [ ] NO **If no, please answer one of the following:**

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?
[ ] YES [ ] NO **If no, give name of country**

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?
[ ] YES [ ] NO **If no, give name of country**

11. Additional explanation on ownership *(If needed, use the reverse for extra space)*:

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.

2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.

3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

Monsanto Technology LLC. (as of Nov 19, 2003)
~~ASGROW SEED COMPANY~~ LLC
PVP APPLICATION - AG5701
October 1999

EXHIBIT E

Statement of Basis of Applicant Ownership

AG5701was originated and developed by Dr. Bruce Luzzi, an Asgrow soybean breeder. By agreement with Asgrow Seed Company LLC, all rights to any invention, discovery or development made by employees are assigned to the company. No rights of such invention, discovery or development are returned to the employee.